

Ethernet RFC 2544 Layer 2 Traffic

This quick card describes how to set up the **OneAdvisor 800 400G Module** or **OneAdvisor 1000 400G Module** to run an **RFC 2544 Layer 2 Traffic Test** for Metro Ethernet service activation.

- OneAdvisor 800 or OneAdvisor 1000 equipped with the following:
 - o 400G Transport Module
 - o Transport software release V4.0.0 or greater
 - Software option for data rate to be tested:
 - ✓ CA10M1GE test option for 10/100/1000M
 Copper or 1 Gigabit Optical Ethernet
 - ✓ CA10GELAN test option for 10 Gigabit Ethernet
 - ✓ CA25GE test option for 25 Gigabit Ethernet
 - ✓ CA40GE test option for 40 Gigabit Ethernet
 - ✓ CA50GE test option for 50 Gigabit Ethernet
 - ✓ CA100GE test option for 100 Gigabit Ethernet
 - ✓ CA200GE test option for 200 Gigabit Ethernet
 - ✓ CA400GE test option for 400 Gigabit Ethernet
- Optical Transceiver supporting the Ethernet data rate to be tested (SFP, QSFP, or OSFP)
- Cables to match the optical transceiver and the line under test
- Fiber optic inspection microscope (P5000i or FiberChek Probe)
- Fiber optic cleaning supplies



Figure 1: Equipment Requirements

LAUNCH TEST

- 1. Press the Power button to turn on the OneAdvisor.
- 2. Press the 400G Module **Test** icon **2** 400G Module at the top of the screen.
- Using the Select Test menu, Quick Launch menu, or Job Manager, launch the Ethernet Layer 2 Traffic test for the desired data rate on the desired port (P1 or P2). For example: Ethernet ► 400GigE Optical ► RFC 2544 ► Layer 2 Traffic ► P2 Terminate.
- 4. Tap the Go is button next to "Start a New

Configuration (reset to defaults)"



Figure 2: Launch Test

🌞 Configure		
P Edit Previous Configuration	Go	-
Load Configuration from a Profile	Go	-
Start a New Configuration (reset to defaults)	Go	-

OneAdvisor High-Speed Network Testing Platforms

https://www.viavisolutions.com/en-us/product-family/oneadvisor

Figure 3: Start a New Configuration

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QUICK CARD

CONFIGURE TEST

- The following Information is needed to configure the test:
 - VLAN ID, if VLAN tagging is used.
 - Maximum Transmission Unit (MTU), if Jumbo Frames are used.
 - Committed Information Rate (CIR)
 - Pass/Fail Threshold for Throughput, Frame Loss, Latency and Jitter
- Tap the Next button to display the L2 Network Settings screen.
- If you are testing a VLAN, set Encapsulation to VLAN and enter your VLAN ID.
- 3. Tap the ► button twice to display the **Select Tests** screen.
- 4. Select the **Throughput**, **Latency**, **Frame Loss**, and **Packet Jitter** tests.
- 5. Tap the **Next** button to display the **Utilization** screen.
- 6. Set **Max Bandwidth** to the Committed Information Rate (CIR).
- Tap the Next → button to display the Frame Lengths screen.



100 10 VLAN ID 🔶 Next Exi Figure 5: L2 Network Settings No 10 - 5 - 5 - 5 Go To... . Back to Back 🔶 Next Exit Figure 6: Select Tests Go To... 🖬 🚺 🕜 Max Bandwidth (L1 Mbps) L1 Mbps

Figure 7: Utilization

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Exit

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- 8. Select the 1st, 4th, and 8th Frame Lengths.
- 9. If the MTU is greater than 1518 (1522 with VLAN tagging), also enter and select the frame length of the MTU.
- 10. Deselect (uncheck) all other frame lengths.
- 11. Tap the **Next** button four times to display the Test Thresholds screen.
- 12. Check all boxes for which a Pass/Fail Threshold is known. Enter the Threshold for each selection.
- 13. Tap the **Next** button 3 times to display the Run J-QuickCheck screen.

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figure 8: Frame Lengths

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		Figure 0. Test	Thrasholds				

Figure 9: Test Thresholds

		2:28 PM
Run J-QuickCheck		Port 1: 4000igt Layer 2 Harris term
Not Running		G0 10
Tatan' on the set line rate.		
Test frame size: 256 bytes. that you wondro? Local Port:	Remote Loop:	Measured Throughput:
Link Lost	Status Unknown	Not Determined
Link Lost Auto Negotiation:	Status Unknown	Not Determined
Link Lost Auto Negotation: Status Unknown	Status Unknown	Not Determined

Figure 10: J-QuickCheck



CONNECT TO LINE UNDER TEST AND LOOP BACK DEVICE

► For Optical Interfaces:

- Use the VIAVI P5000i or FiberChek Probe microscope to inspect both sides of every connection being used (SFP, attenuators, patch cables, bulkheads)
 - Focus the fiber on the screen.
 - If it appears dirty, clean the fiber end-face and re-inspect.
 - If it appears clean, run the inspection test.
 - If it fails, clean the fiber and re-run inspection test. Repeat until it passes.
- Insert desired Optical Transceiver into the Port 1 SFP or QSFP slot on the top of the OneAdvisor.
- 3. If necessary, insert optical attenuators into the SFP TX and/or RX ports.
- 4. Connect the SFP to the port under test using a jumper cable compatible with the line under test.

For Copper 10/100/1000BASE-T or 10GBASE-T interfaces:

- 1. Insert Copper SFP into the Port 1 SFP or slot on the top of the OneAdvisor.
- Connect the copper SFP to the port under test using CAT 5E or better cable.
- Verify that Local Port status UP and Full Duplex (FD)
- ► Tap the start button.
- Verify that the Remote Loop is recognized, and that Measured Throughput is greater than or equal to the Committed Information Rate.
- ► Tap the ► button to display the **Run RFC 2544** Tests screen.



Figure 11: Inspect Before You Connect



Figure 12: Local Port status



Figure 13: Run J-QuickCheck



RUN TEST

- 1. Tap the Run Test button.
- 2. Wait for the test to complete and verify that all tests pass or complete as indicated by a green or blue checkmark.



Figure 14: Run RFC 2544 Tests

CREATE REPORT

1. Tap the Next → button three times to display the **Report** screen.





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